CLAIMS

What is claimed is:

1. A method of reducing photoaging in a mammal, comprising administering to the epidermis of the mammal an effective amount of at least one oligonucleotide, wherein said oligonucleotide is approximately 2-200 bases in length, and wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

2. The method of Claim 1, wherein said oligonucleotide comprises a sequence selected from the group consisting of SEQ ID NOs: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 or portion thereof.

3. The method of Claim 1, wherein said oligonucleotide is single-stranded.

4. The method of Claim 1, wherein the polynucleotide comprises a 5' phosphate.

5. The method of Claim 1, wherein said oligonucleotide is at a concentration of about 1 μM to about 500 μM.

6. The method of Claim 1, wherein the oligonucleotide is provided together with a physiologically acceptable carrier.

7. A method of increasing melanin production in epidermal cells, comprising contacting said cells with a mimic of telomere disruption, wherein said mimic comprises at least one oligonucleotide.

8. The method of Claim 7, wherein said oligonucleotide comprises SEQ ID NO: 5, or portion thereof.

9. The method of Claim 7, wherein the oligonucleotide is single-stranded.

10. The method of Claim 7, wherein the oligonucleotide comprises a 5' phosphate.

11. The method of Claim 7, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

12. The method of Claim 7, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

13. The method of Claim 7, wherein the inhibitor is provided together with a physiologically acceptable carrier.

14. A method of increasing melanin production in epidermal cells, comprising contacting the cells with an effective amount of at least one oligonucleotide, wherein the oligonucleotide comprises at least one sequence selected from the group consisting of: SEQ ID NOs: 5, 7 and 8 or portion thereof.

15. The method of Claim 14, wherein the oligonucleotide is single-stranded.

16. The method of Claim 14, wherein the oligonucleotide comprises a 5' phosphate.

17 The method of Claim 14, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

18. The method of Claim 14, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

19. The method of Claim 14, wherein the oligonucleotide is provided together with a physiologically acceptable carrier.

20. A method of increasing DNA repair in epithelial cells, comprising contacting said cells with an effective amount of at least one oligonucleotide, wherein said oligonucleotide comprises a sequence selected form the group consisting of SEQ ID NOs: 5, 7 and 8.

21. The method of Claim 20, wherein the oligonucleotide is single-stranded.

22. The method of Claim 20, wherein the oligonucleotide comprises a 5' phosphate.

23. The method of Claim 20, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

24. The method of Claim 20, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

25. The method of Claim 20, wherein the oligonucleotide is provided together with a physiologically acceptable carrier.

26. A method of inhibiting proliferation of epithelial cells, comprising contacting said cells with an effective amount of at least one oligonucleotide, wherein said

oligonucleotide comprises a sequence selected from the group consisting of SEQ ID NO: 5, 7 and 8.

27. The method of Claim 26, wherein the oligonucleotide is single-stranded.

28. The method of Claim 26, wherein the oligonucleotide comprises a 5' phosphate.

29. The method of Claim 26, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

30. The method of Claim 26, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

31. The method of Claim 26, wherein the inhibition of proliferation is transient.

32. The method of Claim 26, wherein the oligonucleotide is provided together with a physiologically acceptable carrier.

33. A method of promoting immunosuppression in epithelial cells, comprising contacting said cells with an effective amount of at least one oligonucleotide, wherein said oligonucleotide comprises a sequence selected form the group consisting of SEQ ID NOs: 5, 7 and 8 or portion thereof.

34. The method of Claim 33, wherein the oligonucleotide is single-stranded.

35. The method of Claim 33, wherein the oligonucleotide comprises a 5' phosphate.

36. The method of Claim 33, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

37. The method of Claim 33, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

38. The method of Claim 33, wherein the inhibitor is provided together with a physiologically acceptable carrier.

39. A method of promoting apoptosis of epithelial cells, wherein said cells contain damaged genomic DNA, comprising contacting said cells with an effective amount of at least one oligonucleotide, wherein said oligonucleotide comprises a sequence selected from the group consisting of SEQ ID NOs: 5, 7 and 8.

40. The method of Claim 39, wherein the oligonucleotide is single-stranded.

41. The method of Claim 39, wherein the oligonucleotide comprises a 5' phosphate.

42. The method of Claim 39, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

43. The method of Claim 39, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

44. The method of Claim 39, wherein the inhibitor is provided together with a physiologically acceptable carrier.

45. A method of treating allergically mediated inflammation in a mammal comprising, administering to the epidermis of the mammal an effective amount of at least one oligonucleotide, wherein said oligonucleotide comprises a sequence selected form the group consisting of SEQ ID NOs: 5, 7 and 8 or portion thereof.

46. The method of Claim 45, wherein the oligonucleotide is single-stranded.

47. The method of Claim 45, wherein the oligonucleotide comprises a 5' phosphate.

48. The method of Claim 45, wherein the oligonucleotide is at a concentration of about 1 μM to about 500 μM.

49. The method of Claim 45, wherein the oligonucleotide comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

50. The method of Claim 45, wherein the inhibitor is provided together with a physiologically acceptable carrier.

51. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 5 and wherein said composition is suitable for medicinal or cosmetic use.

52. The composition of Claim 51, wherein at least one of said oligonucleotides comprises a 5' phosphate.

53. The composition of Claim 51, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

54. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 6 and wherein said composition is suitable for medicinal or cosmetic use.

55. The composition of Claim 54, wherein at least one of said oligonucleotides comprises a 5' phosphate.

56. The composition of Claim 54, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

57. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 7 and wherein said composition is suitable for medicinal or cosmetic use.

58. The composition of Claim 57, wherein at least one of said oligonucleotides comprises a 5' phosphate.

59. The composition of Claim 57, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

60. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 8 and wherein said composition is suitable for medicinal or cosmetic use.

61. The composition of Claim 60, wherein at least one of said oligonucleotides comprises a 5' phosphate.

62. The composition of Claim 60, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

63. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 9 and wherein said composition is suitable for medicinal or cosmetic use.

64. The composition of Claim 63, wherein at least one of said oligonucleotides comprises a 5' phosphate.

65. The composition of Claim 63, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

66. A composition comprising at least one oligonucleotide and a physiologicallyacceptable carrier, wherein at least one of said oligonucleotides is SEQ ID NO: 10 and wherein said composition is suitable for medicinal or cosmetic use.

67. The composition of Claim 64, wherein at least one of said oligonucleotides comprises a 5' phosphate.

68. The composition of Claim 64, wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof.

69. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier,
wherein at least one of said oligonucleotides is selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3 and SEQ ID NO: 4, and wherein at least one of said oligonucleotides comprises a 5' phosphate, and wherein said composition is suitable for medicinal or cosmetic use.

70. A composition comprising at least one oligonucleotide and a physiologically acceptable carrier, wherein at least one of said oligonucleotides is selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3 and SEQ ID NO: 4,
and wherein at least one of said at least one of said oligonucleotides comprises a backbone selected from the group consisting of phosphorothioate, phosphorodithioate, phosphoamidate, methylphosphate and combinations thereof,
and wherein said composition is suitable for medicinal or cosmetic use.